

AD_____

AWARD NUMBER: W81XWH-04-1-0159

TITLE: Preventing Health Damaging Behaviors in Male and Female Army Recruits

PRINCIPAL INVESTIGATOR: Cherrie B. Boyer, Ph.D.
Mary-Ann Shafer, M.D.

CONTRACTING ORGANIZATION: University of California, San Francisco
San Francisco, CA 94143

REPORT DATE: January 2010

TYPE OF REPORT: Annual

PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;
Distribution Unlimited

The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE 1 January 2010		2. REPORT TYPE Annual		3. DATES COVERED 1 Jan 2009 – 31 Dec 2009	
4. TITLE AND SUBTITLE Preventing Health Damaging Behaviors in Male and Female Army Recruits				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER W81XWH-04-1-0159	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Cherrie B. Boyer, Ph.D.; Mary-Ann Shafer, M.D. E-Mail: boyerc@peds.ucsf.edu				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) University of California, San Francisco San Francisco, CA 94143				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for Public Release; Distribution Unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT Health damaging behaviors of young military personnel are reflections of health problems facing all young people in the U.S. Military life presents opportunities and challenges that may both protect and place young troops at risk for health damaging behaviors. Challenges for maintaining a healthy armed force include high rates of sexually transmitted infections (STIs), unintended pregnancies (UIPs), misuse of alcohol/substances, and personal sexual violence defined as violence within one's personal (dating or marital) relationships. The common thread through these negative health outcomes is volitional behavior. Such behaviors do not only result in illness or injury, but also negatively impact performance of military duties and threaten military readiness. Despite military leadership in setting standards and policies regarding professional behavior and universal health care for preventing and eliminating such negative health outcomes, many health problems remain. Building on our previous military research, we plan to develop and evaluate a cognitive-behavioral, skills-building intervention to prevent and reduce young troops' risk for STIs, UIPs, alcohol/substance misuse, and personal sexual violence. This research also seeks to establish the best training practices for educating young troops about health issues that impact military performance and readiness. Finally, it will have direct implications for health promotion and disease prevention education strategies designed to reach military men and women early in their careers.					
15. SUBJECT TERMS Health Promotion; Disease Prevention; Education and Intervention					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES 13	19a. NAME OF RESPONSIBLE PERSON USAMRMC
a. REPORT U	b. ABSTRACT U	c. THIS PAGE U			19b. TELEPHONE NUMBER (include area code)

TABLE OF CONTENTS

Introduction.....	4
Body.....	4
Key Research Accomplishments.....	7
Reportable Outcomes.....	8
Conclusions.....	8
References.....	8
Appendices.....	9
Supporting Data.....	9

3. INTRODUCTION

The proposed study will utilize a group, randomized controlled study design to evaluate the effectiveness of a cognitive-behavioral intervention to: (1) prevent sexually transmitted infections (STIs), unintended pregnancies (UIPs), alcohol and other substance misuse, and exposure to or involvement with personal sexual violence among Army recruits; (2) reduce participants' risk for STIs, UIPs, alcohol and other substance misuse, and exposure to or involvement with personal sexual violence by (a) decreasing gaps in knowledge and misperceptions about risk and prevention, (b) increasing motivation to change risk behaviors, (c) building effective skills to engage in health promoting behaviors, (d) decreasing sexual risk behavior; and (3) determine the best strategy for educating participants about the sensitive health matters such as STIs, UIPs, alcohol and other substance misuse, and exposure to or involvement with personal sexual violence. Additionally, all participants will complete self-administered questionnaires and will be screened for STIs (*C. trachomatis* and *N. gonorrhoeae*) at baseline and 12 months post-intervention and will be screened for pregnancy/UIP at 12 months.

4. BODY

Research activities accomplished in calendar year from January 1, 2008 through December 31, 2008 are detailed below under SOW activity 3.

STATEMENT OF WORK (SOW)

1. Brief commanding officers of the Department of the Army, Headquarters, U.S. Army Training Center and Fort Jackson, Fort Jackson, SC.
 - a. We have briefed COL Thomas Hayden, COL James Mundy, COL Dunemn, LTC Larry Andreo, and LTC Sonya Corum. **This activity was completed in May 2006.**
2. Conduct focus groups to assist in the development of: (1) comparable gender-specific interventions to reduce health damaging behaviors associated with sexually transmitted infections (STIs), unintended pregnancies (UIPs), alcohol and other substance misuse, and personal sexual violence; and (2) pre- and post-intervention self-administered questionnaires to assess knowledge, attitudes, and beliefs, and behaviors associated with STIs, UIPs, alcohol and other substance misuse, and personal sexual violence. **This activity was completed in September 2007. See a detailed summary below.**
 - a. Institutional Review Board (IRB) approval to conduct focus groups was received from the United States Army Medical Research and Materiel Command (USAMRMC) Human Research Protection Office in May 2007 and the University of California, San Francisco, Committee on Human Research, initially in March 2007 and re-approved with modifications requested by the USAMRMC Human Subjects Research Review Board (HSRRB) May 2007.
 - b. The primary purpose of the focus groups (anonymous small-group discussions) was to determine the best intervention strategy to affect behavioral change among soldiers in

Advance Individual Training (AIT) at Fort Jackson, the group who will be the focus of this intervention research to prevent sexually transmitted infections (STIs) and unintended pregnancies (UIPs). Another purpose of the focus group discussion was to better understand AIT soldiers' knowledge, attitudes, beliefs, and behaviors related to risk and prevention of STIs, UIPs, and alcohol and substance misuse. In addition, the information gathered from the focus group discussions was to better understand the Army-specific context in which health behaviors occur. For example, we were interested in learning how a recent or impending deployment may influence risk for STIs, UIPs, and alcohol and substance misuse.

- c. Six separate male and female focus groups were conducted at Fort Jackson in Columbia, SC on September 28-29, 2007. Four groups were among soldiers in AIT (two male and two female groups) and two groups among junior enlisted personnel (one male and one female).
- d. Results of the focus group discussion indicate a clear need for Army-specific interventions to prevent the risk of behaviors related to the acquisition and transmission of STIs and UIPs by increasing accurate knowledge, improving protective attitudes, enhancing motivation to enact behavior change, increasing communication, problem-solving, and decision-making skills to reduce STI- and UIP-related skills. Specifically, three major areas of potential risk were identified:
 - a.) In male-female soldiers social interactions during periods of leave
 - b.) During weekend leaves male and female AIT soldiers socialize at clubs, malls, and other places. While all do not engage in activities that may increase their risk for STIs and UIPs, some do drink and engage in unprotected sexual behavior.
 - c.) Although some indicated knowledge regarding methods of reducing risk, including abstinence from drinking or drinking in moderation and/or abstinence from sexual activity or using barrier methods to reduce risk during sexual behavior, some reported limited or incorrect knowledge, negative attitudes, a lack of motivation and skills to reduce their risk while engaging in these behaviors.
 - d.) Both male and female soldiers indicated that STIs and UIPs are of concern for them and heard of instances where these negative health outcomes have occurred.
 - e.) Some soldiers reported that going to the Troop Medical Clinic is a great place to go for reproductive health concerns such as STIs or pregnancy, some indicated concern that their health information would not be kept privacy, which may prevent them from seeking healthcare in a timely manner or for prevention purposes.
 - f.) When transitioning from AIT training to first duty station, especially on a new post
 - g.) Junior enlisted soldiers, especially female soldiers, reported knowledge of instances when soldiers first arrive to a new duty station, they receive a great deal of attention from male soldiers. It was reported that some soldiers are motivated by genuinely helping the "newbie" and some are motivated by possible opportunities for selfish reasons such as garnering attention or even dates. Some soldiers perceived this to be a particularly vulnerable time for female soldiers, especially those who are naïve or unsuspecting of the other the person(s) motives.

- h.) Some soldiers (especially female soldiers) indicated that there is a need for training to give young male and female soldiers skills about how to handle social transitions to a new post.
- e. When learning about their initial deployment abroad (e.g., Iraq)
 - a.) Both male and female soldiers reported feelings of being prepared for deployment in terms of their technical skills, but reported apprehension about the unknown and unexpected things to come; concern that family members and other love ones will worry about them; and unease about not having opportunities for rest and relaxation during long periods of deployment.
 - b.) As a result of these concerns, some soldiers reported an accelerated rate of engaging in some behaviors including drinking more and/or engaging in sexual activity.
 - c.) Along these lines some reported (males) wanting to make sure they leave a legacy (child) behind if the event that they do not return from deployment, thus prompting opportunities for engaging in unprotected sexual intercourse.
- 3. Develop comparable gender-specific interventions for male and female Army recruits to: (1) prevent acquisition of STIs and UIPs; and (2) reduce the risk of STI- and UIP-related behaviors including alcohol and other substance misuse, and personal sexual violence. This activity was completed in December 2008. See a brief summary below.
 - a. Army-specific interventions were developed on the basis of results of the focus groups and on the basis of current literature in the fields of STI/HIV prevention, nutrition, fitness, and physical injury prevention. Specifically, we developed curriculum, including the training manual for the STI/UIP prevention intervention, and an Army-specific video to reinforce health promotion information. The video is entitled, *Off Post*. The intervention is entitled, *Staying Safe and in Control: Increasing Knowledge and Building Skills to Prevent Sexually Transmitted Infections and Unintended Pregnancies*. See our previous annual report dated 21 January 2009 for a detailed outline of the modules for each of the five sessions of the intervention's training manual. In addition, for the comparison group, an intervention was developed that focused on nutrition, physical fitness, and injury prevention was developed. This intervention is entitled, *Fit You: Practical Tools for Healthy Eating, Physical Fitness, and Injury Prevention*. See our previous annual report dated 21 January 2009 for a detailed outline of the intervention's training manual. Finally, based on our focus group discussions, as noted above, it is apparent that due to the manner in which AIT soldiers are trained and the common concerns, the focus of the interventions will be co-ed, but they could be readily administered separately for male and female soldiers. A brief overview of both intervention curricula are outlined below.

The following SOW activities have not been completed, as they are contingent upon research planning activities yet to be accomplished. Although we have received IRB approval from the University of California, San Francisco, Committee on Human Research (CHR) we will be submitting our IRB protocol the HSRRB are required prior to the initiation of the following activities. We have received approval from our University's CHR (see approval letter in Appendix 1). Now at we have local IRB

approval to conduct the full-scale intervention trial, we will be submitting our research protocol to the HSRRB within the next week. Upon approval from the HSRRB, we plan to work with We plan to submit an IRB protocol to the CHR in the next month. Upon approval, we will submit a protocol to the USAMRMC HSRRB for approval to conduct the pilot test of the study's intervention materials including the pre-and post-test questionnaires and specimen collection protocol as noted below.

We have tremendous support for conducting this research among the operations and health promotion commands at Fort Jackson, SC. On October 8, 2009, we briefed the 187th Ordnance Battalion's Executive Officer (Major Benjamin W. Kratz, Sr.) and other command leadership at Fort Jackson regarding our proposed research plan. See Appendix 2 for a copy of our letter of support from our primary contact command at Fort Jackson, the U.S. Army Basic Combat Training Center of Excellence (USABCTCoE), Deputy Commander COL, IN Kevin A. Shwedo. Within the USABCTCoE, LTC Sonya J. Cable remains our first-line contact person who will be working closely with us to logistically implement the study's activities.

4. Pilot-test the gender-specific interventions, self-administered questionnaires, and the biological specimen collection protocol for feasibility.
5. Implement the intervention within the context of basic training.
6. Conduct a 12-month follow-up of intervention participants.
7. Evaluate the effectiveness of each gender-specific intervention and compare differences across interventions on study participants' acquisition of STIs and UIPs during their first year of military service.
8. Examine key sub-questions related to STIs and UIPs: (1) assess psychosocial, behavioral, and contextual factors associated with STIs and STI-related risk at baseline and STIs and UIPs at follow-up; (2) document the prevalence of personal sexual violence at basic training entry; (3) examine relationships among personal sexual violence, STIs, and STI-related risk at baseline and STIs and UIPs at follow-up; and (3) determine the relationship between alcohol and other substance misuse and personal sexual violence and the relationship of these factors to STIs and STI-related risk at baseline and STIs and UIPs at follow-up.
9. Disseminate study findings through: (1) briefs given to participating military commands; (2) presentations at military-specific preventive medicine meetings as well as annual scientific meetings; and (3) publications submitted to scientific journals.

5. KEY RESEARCH ACCOMPLISHMENTS TO DATE

Our research accomplishments to date include: (1) Identification of a suitable cohort in which to implement the proposed research (see description of these activities in the Body section above. (2) Examination of scientific literature and published interventions in order to identify elements of effective interventions to prevent STIs, UIPs, alcohol and other substance misuse, and

personal sexual violence to guide the development of interventions in the proposed research (see our previous annual report dated January 20, 2006). (3) Completion of focus group discussions served as the foundational material for the development of the intervention to prevent STIs and UIPs in soldiers undergoing AIT trainees. (4) Completion of the curriculum, including the training manuals for both the experimental and control group arms of the study, as well as the pre-test questionnaire and a protocol for implementation.

6. REPORTABLE OUTCOMES

There are no reportable outcomes to date.

PROPOSED PROJECT ACTIVITIES:

Our plans for the coming year include completing SOW activities outlined in items 4 and 5 above. Specifically, we plan to: (1) seek approval from the USAMRMC HSRRB; (2) pilot-test the STI and UIP intervention materials as well as the comparison nutrition, fitness, and injury prevention intervention's materials; and (3) implement the interventions within the context AIT, Fort Jackson, SC.

7. CONCLUSIONS

There are no scientific conclusions that can be made at this time.

8. REFERENCES

1. J.D. Fisher, W. Fisher, in *Emerging Theories in Health Promotion Practice and Research; Strategies for Improving Public Health*. R. J. DiClemente, R. A. Crosby, M. C. Kegler, Eds. (Jossey Bass, San Francisco, 2002), pp. 40-70.
2. T. Baranowski, C.L. Perry, G.S. Parcel, in *Health Behavior and Health Education*. K. Glanz, F.M. Lewis, B.K. Rimer, Eds. (Jossey Bass, San Francisco, 1997), pp. 153-178.
3. J.O. Prochaska, C. A. Redding, K.E. Evers, in *Health Behavior and Health Education*. K. Glanz, F.M. Lewis, B.K. Rimer, Eds. (Jossey Bass, San Francisco, 1997), pp. 60-84.
4. J.A. Catania, S.M. Kegeles, T.J. Coates, *Health. Educ. Q.* **17**, 53 (1990).
5. D.E. Montano, D. Kasprzyk, S.H. Taplin, in *Health Behavior and Health Education*. K. Glanz, F.M. Lewis, B.K. Rimer, Eds. (Jossey Bass, San Francisco, 1997), pp. 85-112.
6. S.E. Hobfoll, *Am. Psychol.* **44**, 513 (1989).
7. R. Alcalay, *Soc. Sci. Med.* **17**, 87 (1983).
8. Heppner, M. J., H. Neville, K. Smith, D.M. Kiviligan, B. Gershuny, *J. Couns. Psychol.* **46**, 16, (1999).

9. P.M. Fabiano, H.W. Perkins, A. Berkowitz, J. Linkenbach, C. Stark, *J. Am. Coll. Health* **53**, 105 (2003).
10. D. Kirby, R. Barth, N. Leland, J.V., Fetro, *Fam. Plan. Perspect.* **22**, 253 (1991).
11. G.M. Wingood, R. J. DiClemente, in *Emerging Theories in Health Promotion Practice and Research; Strategies for Improving Public Health*. R. J. DiClemente, R. A. Crosby, M. C. Kegler, Eds. (Jossey Bass, San Francisco, 2002), pp. 313-346.
12. V.J. Strecher, I. M. Rosenstock, in *Health Behavior and Health Education*. K. Glanz, F.M. Lewis, B.K. Rimer, Eds. (Jossey Bass, San Francisco, 1997), pp. 41-59.
13. G.A. Marlatt, K. Witkiewitz, *Addict. Behav.* **27**, 867 (2002).

9. APPENDICES

Appendix 1: UCSF CHR Approval Letter

Appendix 2: Letter of Support USABCTCoE, Fort Jackson

10. SUPPORTING DATA

None.

Appendix 1.

UCSF CHR Approval Letter

CHR APPROVAL LETTER

TO: Cherrie B. Boyer, Ph.D.
Box 0503

RE: Preventing Health Damaging Behaviors In Male and Female Army Soldiers

The Committee on Human Research (CHR) has reviewed and approved this application to involve humans as research subjects. This included a review of all documents attached to the original copy of this letter.

Specifically, the review included but was not limited to the following documents:

Consent Form, Dated 1/10/10

The CHR is the Institutional Review Board (IRB) for UCSF and its affiliates. UCSF holds Office of Human Research Protections Federalwide Assurance number FWA00000068. See the CHR website for a list of other applicable FWA's.

APPROVAL NUMBER: H7183-34767-01. This number is a UCSF CHR number and should be used on all correspondence, consent forms and patient charts as appropriate.

APPROVAL DATE: January 11, 2010

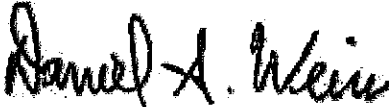
EXPIRATION DATE: December 10, 2010

Full Committee Review

GENERAL CONDITIONS OF APPROVAL: Please refer to www.research.ucsf.edu/chr/Apply/chrApprovalCond.asp for a description of the general conditions of CHR approval. In particular, the study must be renewed by the expiration date if work is to continue. Also, prior CHR approval is required before implementing any changes in the consent documents or any changes in the protocol unless those changes are required urgently for the safety of the subjects.

HIPAA "Privacy Rule" (45CFR164): This study requires individual consent/authorization for use and/or disclosure of Protected Health Information (PHI).

Sincerely,



Daniel S. Weiss, Ph.D.

Vice Chair, Committee on Human Research

cc: Anthony Kung, Box 0503

Appendix 2.

Letter of Support United States Army Basic Combat Training Center of Excellence, Fort Jackson, SC



DEPARTMENT OF THE ARMY

HEADQUARTERS, UNITED STATES ARMY BASIC COMBAT TRAINING CENTER OF EXCELLENCE
4325 JACKSON BOULEVARD
FORT JACKSON, SC 29207-5015

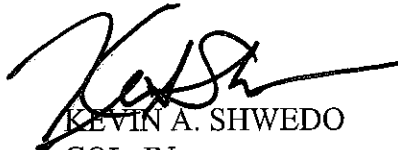
ATZJ-DCO

MEMORANDUM FOR Dr. Cherrie Boyer, University of California, San Francisco, Box 0503,
Laurel Heights 245, San Francisco, CA 94143-0503

SUBJECT: Preventing Health Damaging Behaviors in Army AIT Soldiers

1. The U. S. Army Basic Combat Training Center of Excellence (USABCTCoE) leadership appreciates your research efforts in reducing and preventing sexually transmitted infections (STI) and unintended pregnancies. We are also interested in combating their associated behaviors of alcohol misuse, illicit substance use, and sexual violence in our AIT Soldiers. Your intervention program that combines STI screening with 10 hours of education has the potential to prevent damaging health behaviors in Soldiers while in AIT and beyond. We appreciate your pilot to implement the intervention strategy within the existing required training curricula of 187th Ordinance Battalion, so you can determine its effectiveness.

2. We look forward to working with you and your team in this endeavor. The USABCTCoE point of contact for further coordination is LTC Sonya Cable, Director of the Experimentation and Analysis Element. She may be reached at 803-751-4108 or sonya.cable@us.army.mil.


KEVIN A. SHWEDO
COL, IN
Deputy Commander